Fifth Disease (Human Parvovirus B19)

What is fifth disease?

Common viral infection with rash occurring 4 to 14 days (up to 21 days) after the start of the viral infection

What are the signs or symptoms?

- Fever.
- Headache.
- Tired, muscle aches.
- Uncommon symptoms are itchiness, cough, diarrhea or vomiting, runny nose, and joint aches.
- Red "slapped-cheek" rash appears 4 to 14 days (up to 21 days) after these signs or symptoms. This characteristic rash is followed shortly by a lacelike-appearing rash proceeding from trunk to arms, buttocks, and thighs.
- Rash may disappear and reappear after exposure to heat for weeks; once rash appears, the child is no longer contagious and usually does not feel ill.
- Individuals can be infected and infectious without ever having any signs or symptoms.
- Disease can be severe in people with sickle cell disease or certain blood disorders, as well as those with compromised immune systems.

What are the incubation and contagious periods?

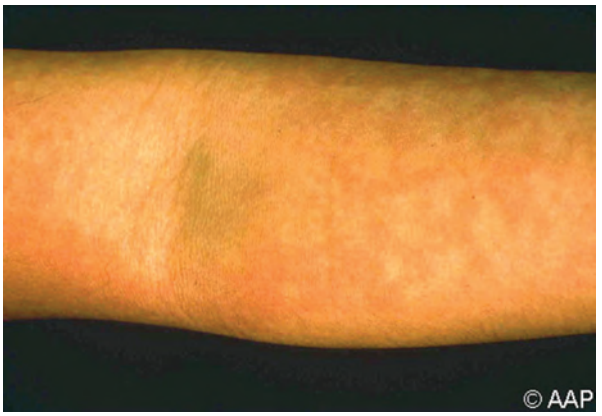
- Incubation period: 4 to 14 days but can be as long as 21 days.
- Contagious period: Until the rash appears.
- Outbreaks occur in late winter and early spring.

How is it spread?

- Respiratory (droplet) route: Contact with large droplets that form when a child talks, coughs, or sneezes. These droplets can land on or be rubbed into the eyes, nose, or mouth. The droplets do not stay in the air; they usually travel no more than 3 feet and fall onto the ground.
- Exposure to blood or blood products (very rare).
- A baby can be infected before birth from infection of a pregnant mother (rare).

How do you control it?

- Use good hand-hygiene technique at all the times listed in Chapter 2.
- Sanitation of contaminated items.
- Disposal of tissues containing nose and throat secretions.



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Child's leg with lacelike-appearing rash

AAP

Parvovirus B19 infection (erythema infectiosum, fifth disease) with typical facial erythema, commonly referred to as the "slapped-cheek sign"

What are the roles of the educator and the family?

- Report the infection to the staff member designated by the early childhood education (ECE) program or school for decision-making and action related to care of ill children. That person, in turn, alerts possibly exposed family and staff members to watch for symptoms. In particular, children with conditions of an underlying blood disorder, such as sickle cell disease, or a compromised immune system may become seriously ill if infected with human parvovirus B19 and so notifying parents of these children about an exposure to fifth disease is important.

- Susceptible pregnant educators and pregnant mothers of children in ECE programs or school should carefully practice hand hygiene to reduce their risk of human parvovirus B19 infection and infection from other viruses that could harm a fetus. Directors should have educators read and sign the Letter to Staff About Occupational Health Risks and ensure completion and review of the Staff Health Assessment Form (see Chapter 8).
- Prevent contact with respiratory secretions. Teach children and educators to cover their noses and mouths when sneezing or coughing with a disposable facial tissue, if possible, or with an upper sleeve or elbow if no facial tissue is available in time. Teach everyone to remove any mucus or debris on skin or other surfaces and perform hand hygiene right after using facial tissues or having contact with mucus to prevent the spread of disease by contaminated hands.
- Dispose of facial tissues that contain nasal secretions after each use.

Exclude from educational setting?

No, unless

- The child is unable to participate and staff members determine they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.
- The child meets other exclusion criteria (see Conditions Requiring Temporary Exclusion in Chapter 4).

Readmit to educational setting?

Yes, when all of the following criteria are met:

When exclusion criteria are resolved, the child is able to participate, and staff members determine they can care for the child without compromising their ability to care for the health and safety of the other children in the group

Comment

Pregnant family members and educators who expect to have contact with their own or other children who receive care in ECE settings should consult with their health professionals about the risk, although low, to the fetus if the pregnant mother is infected with parvovirus. These women should understand the risk to their fetus and ways to reduce that risk. At enrollment, the program should explain the importance of hand hygiene to reduce the risk of sharing infections for children, staff, and family members. Contact with their own young children who are enrolled in ECE programs increases the risk of exposure of women to parvovirus that may cause problems for their fetus, if they are pregnant.

To alert health professionals responsible for the health assessment of staff members of childbearing age to the need of their patient to be counseled about parvovirus risk, ECE program directors/administrators should be sure parvovirus risk assessment and counseling are items that are addressed on the staff health assessment form. In addition, it may be helpful for directors/administrators to attach this Quick Reference Sheet and the Cytomegalovirus (CMV) Infection Quick Reference Sheet to the note in the box below to alert health professionals to increased risk of exposure to the fetus if the woman is infected during her pregnancy. Health professionals are not necessarily aware of the increased exposure to these viruses for women who work with young children in ECE settings.

Dear Health Professional:
Your patient works in a setting where she has contact with young children in groups. Human parvovirus B19 and cytomegalovirus (CMV) occur commonly and are often asymptomatic among young children. Exposure of a woman who lacks immunity to human parvovirus B19 and CMV during pregnancy poses some risk to her fetus. Please discuss with your patient her childbearing intentions and whether she might want to consider the following risk-reduction measures when she might become pregnant:

- Conscientious handwashing after any contact with saliva, urine, or blood
- Care of children who are older than 3 years
- Working in a role other than direct care of young children

About Serologic Testing
Because different strains of CMV circulate among young children, especially those in early childhood education programs, a serologic test for CMV informs about risk but does not completely guarantee immunity from exposure to novel strains. However, a serologic test for human parvovirus B19 is a reliable indicator of immunity.